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FISKE FUND PRIZE DISSERTATIONS OF THE RHODE ISLAND MEDICAL SOCIETY.

PURPURA HÆMORRHAGICA,

ITS

CAUSES AND TREATMENT.

BY

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"Opinionum Co... Pr... delet dies, Naturæ judicia confirmat."—CIC. DE NAT. DEORUM.

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At a meeting of the Fiske Fund Trustees, held at *Providence, R. I.*, on the 6th day of June, A. D. 1836, it was decided that the Dissertation bearing the motto, "*Opinionum Commenta delet dies, Naturæ judicia confirmat*," and which, on breaking the seal of the accompanying letter, was found to be written by David King, Jr., M.D., of Newport, was entitled to the premium of *forty dollars* offered for the best Dissertation on the question, "What are the causes and nature of Purpura Hæmorrhagica, and the best mode of treatment to be employed therein?" In awarding the premium to this Dissertation, neither the Trustees nor the Rhode Island Medical Society hold themselves responsible for the doctrines herein inculcated, treatment recommended, or opinions advanced.

Signed,

Charles E. Eldridge,
Samuel West,
William G. Shaw.

DISSERTATION.

"*What are the causes and nature of* PURPURA HÆMORRHAGICA, *and the best mode of treatment to be employed therein?*"

THE history of Purpura Hæmorrhagica, cannot be traced back to a remote antiquity. Willan* and Bateman† have exhibited much learning in regard to the descriptions of it, by the most distinguished writers of the 16th, 17th, and 18th centuries. From its first notice by Amatus Lusitanus, in 1550, who described it under the denomination of "Morbus Pulicaris sine febre," to the time of Willan, who designated it by the term "Purpura Hæmorrhagica," the disease was noticed by writers under a variety of names. In the north of Europe, and Great Britain, where the scurvy prevailed, very generally, it was considered under the title of Scorbutus. Sydenham, Eugalenus and Lister, according to Willan, describe purpura hæmorrhagica under the name of scorbutus. Riverius records cases of this disease, in his Centuries, under the head of malignant fever. Rombergius and Graaf treated of it under the appellation of "Petechiæ sine febre;" Raymann under that of "Petechiæ mendaces;" Sauvage under that of "Stomacace universalis," and Adair under that of "Hæmorrhœa petechialis."

Nothing, [illegible] practical, in relation to this disease, can be drawn from the imperfect and rude sketches of its phenomena, previous to the time of Willan. The works of Willan, Bateman, Parry, Rayer, and Biett, furnish materials for a history of its symptoms, and give out hints, which may, in the process of time, lead to a more successful investigation of the agents that produce it, and of the true pathological condition in which its nature consists.

Purpura Hæmorrhagica derives its name from the two leading characteristics of the disease, the purple spots, consisting of sanguineous extra-

* On Cutaneous Diseases, by Robert Willan, M.D. F.A.S. Philadelphia edition, 1809, vol. 1, pp. 345.

† Practical Synopsis of Cutaneous Diseases, by Thomas Bateman, M.D. F.L.S. Philadelphia edition, 1818, pp. 106.

vasations in the skin, or in the subcutaneous cellular tissue, and the hæmorrhages, which most generally occur from the mucous membranes.

The spots which appear on the skin, in purpura hæmorrhagica, are divided by Rayer* into petechiæ and ecchymoses. The petechiæ are of a circular form, and of the size of large fleabites, from half a line to a line and a half in diameter. The ecchymoses are irregular patches, formed by the coalescence of many petechial spots. When large they are, properly, compared to marks produced on the skin by external violence, as from blows, or the strokes of a whip. The petechiæ and ecchymoses consist in the spontaneous effusion of blood, sometimes under the cuticle, sometimes in the superficial layers of the dermoid tissue, and sometimes in the subcutaneous cellular tissue. Hence arises one of the distinguishing characters of the petechiæ, the persistence of their color under pressure. The cuticle over the spots has been observed by Willan and Bateman to be smooth and shining, and often so delicate as to be ruptured by the slightest scratch, or pressure. This is more easily ruptured on the mucous membranes, owing to the extremely delicate texture of its epithelium. In some cases the cuticle is elevated in the form of vesicles filled with blood, as noticed by Willan, Riel, Bateman and Biett.

The petechiæ and ecchymoses, in purpura hæmorrhagica, appear first on the legs; then on the thighs and arms; the trunk, neck and face, according to Rayer, are more rarely affected by them. Biett has occasionally noticed them on the eyelids.† "Sometimes they are uniformly distributed over the body, and sometimes in irregular patches."‡

The color of the petechiæ is at first of a bright red, afterwards purple, or livid, and when about to disappear of a yellowish or brownish hue. Willan has remarked, that the spots are larger and most vivid in the evening, or night; during the day, they are smaller and of a yellowish hue. They usually continue to increase in number for the space of 10, 15, or 20 days.§ "Many of the patches disappear in a week or two, whilst fresh ones appear in other places." The skin in the early stages of the disease preserves its natural sensibility and color, in the intervals between the petechiæ and ecchymoses, whether cutaneous or subcutaneous. When the disease has continued for some time, it acquires a yellowish tinge. As the color of the petechiæ and ecchymoses varies

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* Traité Théorique et Pratique des Maladies de la Peau, fondé sur de Nouvelles Recherches d'Anatomie et de Physiologie Pathologiques. Par P. Rayer. A Paris, 1827. Tome second, pp. 158. Art. Hémacélinose.

† Clinical Lectures of Biett, Physician to Hospital St. Louis, Paris. By Cazenave and Shedel.

‡ Willan. § Rayer.

with the time from their first appearance, you perceive on the skin, at the same time, various colored spots, some of a bright red appearance, others purple or livid, others of a brownish or yellowish hue.

The disposition to effusion of blood, manifested in the skin, and in the subcutaneous cellular tissue, extends to the different mucous membranes, producing in their substance petechiæ and ecchymoses, or upon their surfaces hæmorrhages. Thus ecchymoses are seen upon the gums, the palate, the tonsils, the interior of the mouth, and lips. The tongue is sometimes covered with ecchymoses, and engorged with blood so as to be double its normal size. Hæmorrhage has been known to arise from the mucous membrane lining the nostrils, fauces and gums; the inside of the lips, cheeks, and eyelids; from the tongue, bronchiæ, stomach, intestines, uterus and vagina; from the kidneys, bladder and urethra. Of these hæmorrhages, epistaxis is most frequent in children, uterine hæmorrhage in women, and pulmonary and intestinal hæmorrhages in adults.*

The serous membranes are sometimes the seat of sanguineous effusion. Thus Cazenave alludes to a case, where an effusion of blood took place from the cerebral arachnoid membrane. Ecchymoses frequently occur beneath the mucous and serous membranes, and in the parenchymatous structure of different organs.

The hæmorrhages from the mucous membranes may precede, accompany or follow the appearance of petechiæ and ecchymoses on the skin. They occur at intervals more or less remote; sometimes being periodical, taking place, perhaps, at a particular hour every day; and sometimes there is a slow and constant exhalation of blood.

The local symptoms of purpura hæmorrhagica sometimes manifest themselves without previous constitutional disturbance. Dr. Biett relates, in his lectures, the case of a young man, who went to bed in perfect health, and on the succeeding day his skin was covered with ecchymoses, and blood issued in quantities from his mouth and nostrils. This form of purpura hæmorrhagica is the true "Apyrétique Hémacélinose" described by Rayer. "It may be preceded by epistaxis, hæmatemesis, hæmoptysis, or other hæmorrhages from the mucous membranes. The petechiæ and ecchymoses manifest themselves upon the surface of the body without heat or pain. Children continue their plays, and adults engage in their habitual pursuits. The pulse, respiration and digestion, the secretions and excretions, are natural. The intellectual faculties are exercised as in health. The exploring of the thorax by the stethoscope

* Rayer.

and the examination of the abdomen, discover no alteration in the organs contained within these cavities."

In general, however, according to the experience of Bateman and Parry, febrile symptoms precede the appearance of the purpurine spots, and accompany the disposition to hæmorrhagic action.

Thus, before the occurrence of the local symptoms, there is languor, depression of spirits, and loss of energy in the muscles of voluntary motion. Excruciating pains in the limbs, and great tenderness and irritability of the surface, sometimes immediately precede the appearance of petechiæ and ecchymoses. A morbid state of the circulating and respiratory systems, with general derangement of the secretions and excretions, is observed in most cases. The pulse varies according to the energy of the system, and the period of the disease. Recorded cases show it to be sometimes feeble and excited, sometimes slow and laboring, sometimes frequent, firm and resisting.

The prominent symptoms are seated sometimes in the lungs, attended with pain, dyspnœa, and cough. Sometimes the heart is more particularly affected, attended with frequent syncope; sometimes the abdominal viscera, especially the liver, characterized by deep-seated pains in the precordia and abdomen, tension and tenderness of the epigastrium and hypochondria, with intestinal derangement. In other cases the brain is the prominent point of congestion.

"When the disease has continued some time, the patient becomes sallow, or of a dirty complexion, and much emaciated, and some degree of œdema appears in the lower extremities, which afterwards extends to other parts."

Purpura hæmorrhagica has no regular duration. It continued from 14 days to 12 months and upwards in the cases which came under the observation of Dr. Willan. The duration of the disease depends much on the state of the constitution, the degree of hæmorrhagic action, and the tissue or organ upon which it may concentrate its force. Thus where there is no constitutional disturbance, it may remain for years. Bateman alludes to a case related by Dr. Duncan, "which occurred in a boy, who was employed for several years by players to carry their sticks, and whose skin was constantly covered with petechiæ, and exhibited vibices and purple blotches, wherever he received the slightest blow." He continued thus for years, in apparent good health, till a profuse pulmonary hæmorrhage caused his death. Profuse hæmorrhages sometimes contribute to a restoration of health; but, most generally, to a fatal termination. Bateman mentions one case in which severe catamenial flood-

ing restored the patient to health, but he alludes to many cases in which profuse pulmonary hæmorrhage produced death. An effusion of blood over the glottis, by obstructing respiration, caused the death of the patient in a case related by M. G. Monod.* A fatal effusion of blood upon the brain is recorded in the Transactions of the Medico-Chirurgical Society of Edinburgh. In general, a fatal termination occurs in the manner described by Rayer. The hæmorrhages become more frequent and copious, the blood more and more serous, the petechiæ and ecchymoses more numerous, and of a deep-brown color. The face acquires a cachectic pallor, and the surface of the body a livid or yellow tinge. The blood retires from the extremities, convulsions supervene, and death soon follows.

Causes of Purpura Hæmorrhagica.—This disease occurs at every period of life, and in persons of various constitutions. The hæmorrhagic tendency seems in some cases to be constitutional; depending, probably, on some peculiarity of texture in the organic nerves, increasing the excitability of the capillary and exhalent systems. Rayer has found it to prevail, at Paris, chiefly among children of feeble constitution, poorly fed, and inhabiting low and damp places, and among females of nervous temperament and of sedentary habits, subjected to the influence of the depressing passions, or enfeebled by acute or chronic diseases. "It has sometimes occurred as a sequela of smallpox and of measles, and sometimes in the third or fourth week of puerperal confinement."† Suppression of habitual discharges, particularly the hæmorrhoidal, is noticed by Dr. Stoker‡ as an exciting cause of the disease. Bateman and Macbride§ have noticed it as a consequence of the action of mercury upon the system. It is, probably, produced by impure air and improper food, in the crowded receptacles of poverty and wretchedness in our large cities. Dr. Graves‖ says it is frequently produced among the lower classes of Dublin, by a salt diet. Huxham has recorded, in the Philosophical Transactions,¶ a singular instance of purpura hæmorrhagica produced by drinking sea-water. We take the narration of this case from Percival's works.**

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* Cazenave. † Bateman.

‡ Pathological Observations on Dropsy, Purpura and Influenza, and the morbid changes of the blood, and their influence in the production and cause of these diseases, illustrated by select cases and dissections. By Wm. Stoker, M.D. Dublin, 1824. Part 1st.

§ Experimental Essays, Medical and Philosophical. By David Macbride. London, 1767. Pp. 153.

‖ Dublin Journal. ¶ Vol. 53, p. 6.

** Essays, Medical and Experimental, by Thomas Percival, M.D. F.R.S. et S.A. London, 1783. Vol. 2, pp. 118.

"A young lady, aged 16, tall, thin, and of a delicate constitution, though in tolerable good health, was advised to use sea-water, on account of a strumous swelling and inflammation of her upper lip. She drank a pint of it every morning for ten days successively, which did not pass off freely by the usual evacuations. At the end of this period, she was suddenly seized with a profuse discharge of the catamenia, was perpetually spitting blood from the gums, and had innumerable petechial spots on different parts of her body. Her pulse was quick, though full; her face pale and somewhat bloated; and her flesh soft and tender. She was often faint, but soon recovered her spirits. The flux from the uterus at length abated; but that from the gums increased to such a degree, that her apothecary took a little blood from her arm. From the orifice blood continually oozed for several days. At last a hæmorrhage from the nose came on, attended with frequent faintings, in one of which she at length expired, choked, as it were, with her own blood. Before she died, her right arm was mortified from the elbow to the wrist. And it is further to be remarked, that though blood let from her some weeks before she began the use of sea-water, was sufficiently dense, yet that drawn in her last sickness was mere putrid and dissolved gore."

The predisposing and exciting causes of this disease cannot always be satisfactorily explained, especially when it occurs in the midst of apparent health, and in persons enjoying the benefit of pure air, and every advantage of fortune and luxury.

Pathology.—The pathology of this disease is the most important, as well as the most obscure subject of consideration. No satisfactory explanation of its pathology has been offered to the medical world. Its external signs have not been truly interpreted. The invariable morbid condition of the system, or part of the system, which gives rise to the phenomena of the disease, has not been accurately ascertained by pathologists.

The proximate cause of this disease has been variously explained by different authors. Dr. Duncan, Jr.* has ascribed it to the following circumstances. "1st. Increased tenuity of blood, allowing it to escape from the superficial extremities of the minute arteries. 2d. Dilatation of the mouths of those arteries allowing natural blood to escape. 3d. Tenderness of the coats of the minute vessels, which give way from the ordinary impetus of the blood. 4th. Increased impetus of the blood rupturing healthy vessels. 5th. Obstructions in the vessels causing rupture,

* Edinburgh Med. and Surgical Journal, 72d No.

with natural impetus, and without increased tenderness. 6th. Two or more of these causes may act simultaneously, or successively."

Dr. Bree* attributes purpura to compression of the brain, which by diminishing the energies of the nervous system, deprives the exhalent vessels of their contractile power. To substantiate his doctrine, he adduces cases in which petechiæ and ecchymoses upon the skin occurred in connection with apoplexy and paralysis, and in which the symptoms of purpura were removed by the antiphlogistic treatment, which relieved the brain from compression.

Mr. Plumbe† considers it as resulting from tenderness of the superficial vessels, caused by congestion in the hepatic and gastric circulation, and the consequent interruption of the process of nutrition.

Dr. Stoker‡ ascribes the origin of the disease to an imperfect and irregular sanguification, the blood not undergoing its salutary and accustomed changes in the pulmonary and hepatic systems. The morbid condition of the blood, he thinks, is the cause of the general oppression, the dyspnœa, the articular pains, the oppressed pulse, the congestion in the portal circle, which, often, accompany this disease. The observations of Dr. Stoker, in relation to this disease, though mingled with many of the exploded notions of the humoral pathology, are enriched with many practical suggestions, in regard to the pathological states of the system, and the therapeutical measures most proper to counteract them.

M'Intosh thinks that it may be owing to a primary affection of the lungs, causing "general functional derangement of many organs, which at last produces a great change upon the blood." "Since my attention became directed to the investigation of the probable causes of petechiæ, I have not in one instance failed in detecting disease of the lungs, and particularly of the mucous membrane, by auscultation; and the observations, so made, have been confirmed upon examination after death." In one rapidly fatal case of purpura hæmorrhagica, he detected the rale crepitant in some parts of the chest, and the rale muceux in others. Rayer, however, observes, that, in the simplest form of purpura, the true "apyrétique hémacélinose," both auscultation and percussion fail to detect any disease of the lungs. This practical hint thrown out by M'Intosh, deserves the consideration of pathologists.

Bateman has pointed to some local visceral congestion, or obstruction,

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* Remarks on the cause of Purpura, by Robert Bree, M.D. F.R.S. Med. and Phys. Journal, London, vol. 21, pp. 321.

† Practical Treatise on Diseases of the Skin. London, 1824. ‡ Pathological Observations, &c.

as a probable cause of the disease. This, he thinks, is in some degree substantiated by the rapidity of the attack, the acuteness of the internal pains, the inflammatory symptoms which sometimes supervene, the occasional removal of the disease by spontaneous hæmorrhage, and the frequent relief derived from artificial evacuations, by blood-letting, and purgatives. The authority of Celsus is adduced by him, to prove that hæmorrhages from the nose, gums, and other parts, were ascribed to a morbid enlargement of the spleen, by the physicians of antiquity. He relates the results of post-mortem examination in two cases of this disease; in one instance, he found the spleen enormously enlarged; in the other, the abdominal viscera were in a healthy condition; but a large morbid growth, consisting of a fleshy tumor, with a hard cartilaginous nucleus, weighing about half a pound, was found in the situation of the thymus gland, firmly attached to the sternum, clavicle, pericardium, and surrounding parts.

Dr. Parry* attributes this disease to excessive momentum of the blood, connected with general or local plethora. This doctrine of excessive momentum of the blood, as the main cause of hæmorrhage, and local determination, the author illustrates, in his work on General Pathology. In the 5th volume of the Edinburgh Medical and Surgical Journal, he relates two cases of purpura hæmorrhagica, which were accompanied with the phlogistic diathesis, and seemed to be the consequence of excessive momentum of the blood. To these cases are attached some remarks on the nature of the disease, from which we take the following passages, in order to illustrate his views. † "These cases strengthen an opinion, which I more than twenty years ago maintained, and which a large subsequent experience has tended to confirm,—that in various diseases, among which may be reckoned inflammations, profluvia, hæmorrhages, dropsies, exanthemata, and other cutaneous eruptions, and even the generality of nervous affections, there is one circumstance in common, which is an over-distension of certain bloodvessels, arising probably from their relative want of tone, or the due contraction of their muscular fibres." After some observations on the distinction between purpura and sea-scurvy, he concludes with the following remarks. "In the mean while, whatever may be the nature of sea-scurvy, or of purpura in general, of which every experienced medical practitioner must have seen numerous examples, there can be little

* Elements of Pathology and Therapeutics, &c. By Caleb Hillier Parry, M.D. F.R.S. London, 1815. Vol. 1st, p. 156.

† The Edinburgh Medical and Surgical Journal, No. XVII. Article 2. Observations on the utility of Venesection in Purpura. By C. H. Parry, Physician, Bath.

doubt that the cases which I have related are to be considered as of the nature of what are called active hæmorrhages; since it matters not, in a pathological view, whether febrile extravasation of blood takes place from the rupture or gaping of an artery in the cellular membrane, in the skin, or on the surface of the epithelium, in the nose, fauces, or bronchia."

The doctrine advanced by Dr. Parry was a great step towards elucidating the pathology of this disease. It was an original view suggested to the mind, after a profound study of nature. It was a startling assertion, in direct opposition to the general current of medical opinion. But whilst we admire the genius that strikes out a path of its own, and dissipates, by the power of a single great truth, a host of false and antiquated opinions, we are obliged to notice the faults and excesses with which original power is too often associated. Dr. Parry carried his doctrine of the inflammatory nature of purpura to an extreme. His error arose from too limited a view of the truth, from his attachment to that part of the truth, of which he himself was the discoverer. Hence it is to be feared, that his partial views have tended to misguide many of his followers, who needed his practical sagacity.

His explanation of hæmorrhagic effusion, as resulting from excessive momentum of the blood overcoming the capillaries, is too mechanical to coincide with the present advanced state of physiology and pathology. That organic disease of the heart sometimes produces local hæmorrhage, there can be no doubt. We know that hypertrophy of the right ventricle, especially when combined with contraction of the left auriculo-ventricular orifice, has caused pulmonary apoplexy; and that hypertrophy of the left ventricle has been the cause of sanguineous effusion in the brain. But, in general, local determination of the blood is not to be traced to the action of the heart, as its source. The irritation, which causes local hæmorrhage, acts primarily on the capillaries, and secondarily on the heart. In the process of secretion, a local determination of blood takes place; that local determination is not caused by the direct action of the heart, but by some natural stimulus, applied to the capillaries of the secreting organ.

Dr. Hannay,* Professor of Physic in the University of Glasgow, attributes "Purpura Hæmorrhagica" to a chronic inflammation of the veins, verging more or less to an acute form. In three successive dissections of patients, who died of purpura, the veins exhibited obvious traces of inflammation, being in a high state of disorganization.

* Medico-Chirurg. Rev. London. July, 1833.

The larger trunks were lined with a coating of purulent matter. It is probable, that future post-mortem examinations will show that inflammation of the veins is merely one of the complications of this disease.

The true manner of investigating the nature of disease, is to observe, in a large number of cases, all the important symptoms ; and to ascertain, by post-mortem examination, all the morbid changes which the tissues and organs have undergone. By pursuing our investigations in this manner, we find that certain symptoms are invariably connected with certain morbid changes of structure. Hence, we are enabled to explain symptoms, to trace the sign to the thing signified, to know disease, not merely by name, but in its true pathology.

Purpura hæmorrhagica, as described by Bateman, is a rare disease. Hence originates one powerful cause to impede the advancement of our knowledge of its nature. There are two considerations, which compensate, in some degree, for the want of individual opportunity to observe and investigate the disease in its various forms. The first is the combination of effort, and the free communication of opinion, which are maintained by the periodical journals throughout the medical world. Hence results an accumulation of facts, which may serve as the basis of substantial and durable doctrines of disease. The second consideration arises from the very nature of medical study. Medicine is a study of general principles. This is the highest aim of philosophy ; and in its accomplishment consists the advancement of our art. The nosological divisions of disease are the arbitrary expedients of art to facilitate study, by the classification of facts. Analogies of disease exist in nature, which are omitted in the nosological systems of our art. It is by means of such analogies, that the knowledge of one disease sheds light upon another, and facilitates its investigation. Hence, as general principles are established in medicine, a surer and shorter road to truth is opened in the investigation of new diseases.

Now in investigating the pathology of purpura hæmorrhagica, we shall, first, consider the morbid changes, as discovered on examination after death. In the second place, we shall appeal to those general principles of pathology, which shed light upon the leading phenomena of the disease, and furnish us, if not with immutable truth, at least with a probable and practical explanation of its nature. This result is much better than uncertainty, doubt, and ignorance. It affords us probable grounds for pathological inferences and therapeutical indications.

These general results of post-mortem examinations in this disease, we have drawn from the excellent work of Rayer, and from dissections recorded in the British Journals.

The petechiæ and ecchymoses on the surface of the body consist of effusions of blood, either in the skin, or in the subcutaneous cellular tissue. In the skin, some are found on the surface of the reticular body; others in the areolæ of the derma. The largest and deepest spots are formed by extravasations of blood in the subcutaneous cellular tissue. The vascular ramifications, in the neighborhood of these extravasations, are not morbidly developed. The mucous membrane of the mouth, pharynx, stomach, and intestines, presents, in some points, petechiæ and ecchymoses, like those upon the surface of the body. In the head, have been discovered vascular congestion, and sanguineous and serous effusions. The cerebral arachnoid membrane has been found covered with a lamina of coagulable lymph. The lungs, usually, present on their external surface a number of ecchymoses. In the intervals, the color of the lungs is natural. Under the ecchymoses, the tissue of the lungs is of a red brown color, firmer than natural, and somewhat engorged with blood. The lungs are frequently found in a congested state. Sometimes the blood is effused in the smaller bronchi, producing the circumscribed pulmonary apoplexy of Laennec*; at other times, the hæmorrhagic effusion occurs in the whole parenchyma of the lungs, constituting the true pulmonary apoplexy.† The bronchial mucous membrane has been observed to be in some cases of a dark color. Ecchymoses have been found on the surface of the heart, and under the peritoneum, the pleura, the pericardium, and the arachnoid membrane. Though the ecchymoses are most frequently found in the sub-serous tissue, yet the serous membranes, themselves, are sometimes found studded with dark livid spots. The ventricles of the heart have been found in an aneurismal state. Enlargement of the spleen, and congestion of the liver, have also been observed. In some very rare cases, all the organs of the body, whether parenchymatous or membranous, are the seat of sanguineous effusion.

To illustrate the nature of this disease, we transcribe the following cases of purpura hæmorrhagica, with the appearances observed on post-mortem examination.

Case I.‡—"On the 13th November, 1823, Dr. Fairbairn was called to a man, aged 24, of regular habits and robust constitution, but subject to vicissitudes of temperature, in his trade of book-binding. He complained of deep-seated pain in the left breast, aggravated by deep

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* Rayer. † Cazenave and Shedel.

‡ A case of Purpura Hæmorrhagica, &c. By P. Fairbairn, M.D. Transactions of the Medico-Chirurgical Society of Edinburgh, vol. 2. See Johnson's Medico-Chirurgical Review, vol. x. p. 61.

inspiration or coughing—breathing laborious, with sense of suffocation on attempt to stand—countenance flushed and anxious—copious discharge of dark venous blood from the mouth, apparently oozing from its mucous membrane, and partly expectorated from the lungs—numerous petechiæ and vibices on the arms, neck, and trunk, varying in magnitude from a mere point to the size of a sixpence. There were none on the hands or face. On the chest and leg, of one side, there were two large livid blotches, resembling ecchymosis. These spots were of various colors—bright red, purple, yellow, but not elevated. In the mouth, similar spots occupied the gums, cheeks, tongue, and fauces. The tongue was covered with a dark fur—urine of a grumous appearance—pulse 110, firm and sharp—some heat of surface—bowels loose. Reports that he experienced depression of spirits, lassitude in the limbs, pains in the head and chest, tickling cough, chilliness and flushes, for several weeks previously. On the 16th November, the petechiæ made their appearance. On the 18th, he was seized with difficulty of breathing, and fixed pain in the side. Dr. Fairbairn bled him to 26 ounces, which produced a disposition to syncope, and was followed by considerable relief. Blood not buffy—coagulum soft, and tremulous. Fifteen drops of diluted sulphuric acid to be taken frequently, in cold water. He had a restless night from turbulent dreams; but the pectoral symptoms were relieved next day. Blood still continued to ooze from the mouth, and febrile symptoms were present. Eighteen ounces of blood from the same arm exhibited the same appearances. A dose of salts, which produced a fœtid, loose stool. The next day, he was again bled to 20 ʒ, having shown symptoms of determination of blood to the head. Syncope took place, and he expired on the morning of the 21st, the sixth day after the appearance of the petechiæ."

Post-mortem examination, thirty hours after death.—"The petechial spots over the body exhibited nearly the same appearances as before death. The sides of the neck, and upper parts of the chest, were swollen and livid, and there was a feeling of crepitus with considerable œdema over the trunk. On removing the integuments from the fore and lateral parts of the chest, the cellular and muscular textures were in some places injected with blood, and emphysematous. The thorax contained about a pound of a fluid resembling blood, of a very dark color, and viscid consistence.

"The lungs were somewhat collapsed, of a dark livid appearance, and contained a bloody serous fluid, which occupied all parts equally; there was much less of feeling of crepitus throughout their substance,

and the spongy texture was less observable than natural. The bronchial tubes and trachea were filled with a similar fluid; and beneath the internal coat of the latter, there was a slight effusion of dark venous blood, which tinged the membrane of a deep purple shade. Between the folds of the anterior mediastinum and pericardium, there was effused into the cellular texture a considerable quantity of very dark blood, mostly in a clotted state, amounting to several ounces by computation. The pericardium contained the usual quantity of lubricating fluid; the inner surface presented its natural, smooth, glossy texture, but it had assumed anteriorly a deep or browish red color, from the effused blood between its layers, shining through it. The heart appeared pale and flaccid; there was no blood in any of its cavities. Under its internal membrane, particularly towards the valves of both sides, but more copious in the left, there was a similar effusion as in the trachea, giving a deep livid color to the surface of the heart, and tinging its substance to the depth of half a line or a line.

"The inside of the aorta presented an increased tint of redness, apparently from the same circumstances, without evident thickening or change of texture.

"In the cavity of the abdomen, the floating viscera were of a dark leaden color, and less vascular than natural. There were a few petechiæ on the intestines. In the ileum, there was a slight inflammation, extending for a couple of inches, where one portion of the bowel had passed within another.

"In the stomach, towards the pyloric extremity, its inner membrane was thickly studded with petechiæ, whereas that portion surrounding the cardia, for about three inches, was distinctly emphysematous.

"The liver was paler than usual, and somewhat softened; its peritoneal proper coat was very easily peeled off; from its internal surface a bloody, serous fluid could be squeezed out. The spleen was of full size, and softer than usual; and when torn, effused a quantity of dark-colored matter, of a semi-fluid consistency.

"The right kidney seemed softer than natural; there was an effusion of blood under the internal membrane lining its pelvis, similar to that on the inside of the heart. The left appeared peculiarly blanched, and was also soft; but there was here no effusion. The bladder was pale and contracted, containing a few ounces of the same turbid colored urine as he had been lately passing.

"On removing the scalp, there were two large ecchymoses on each side, over the superior attachments of the temporal muscles. The brain,

with its membranes, appeared quite healthy; there might be about an ounce or so of clear serum in the ventricles, and at the base of the brain.

"In the course of the dissection, it was remarked that there was a full proportion of adipose substance in every part of the body."

Case II.*—This case was that "of a girl, 16 years of age, who came into St. George's Hospital, London, with spots of purpura on the legs, thighs, and forearms. Pulse full and frequent, tongue clean, bowels open. She had been ill nine months with repeated crops of hæmorrhagic spots. Venesect. ad ʒx. To take infusion of roses and sulphate of magnesia thrice a day, and to apply a spirituous lotion to the parts. The blood was slightly inflamed. The spots began to fade in two days, and in a week afterwards returned, with blood in the urine and stools. She was then purged with calomel and sulphate of magnesia, and next day bled to eight ounces. After the bleeding, the pulse became small and very frequent, and the patient continued weak, some spots appearing and disappearing from time to time. In three weeks after entering the Hospital, she complained of severe pain, tenderness, and tension across the umbilical region—the motions being green—pulse 110, and sharp—tongue furred—skin cool and pale. Bled to ʒx., with Battley's liq. opii sed. 4tis horis. The blood was highly inflamed—pain relieved by the venesection, but still existing in the right iliac region. Repeated the venesection to ten ounces. Saline draughts, with digitalis and laudanum, were given, and she was put on a milk diet. The blood was not inflamed, but the pain and tenderness were relieved for a day, when they returned, and 16 leeches were applied. She was purged, and once more bled. In ten days from this time, she was reported free from complaint. Spots of purpura, however, continued from time to time to appear, and were always removed by mercurial purgatives. On the 12th of May, or 48 days after coming into the Hospital, she was attacked with violent pain in the occiput and back of the neck, accompanied with throbbing and some delirium, small quick pulse, dry and warm skin, furred tongue, &c. She was cupped, leeched, blistered, purged, had cold to the head, and antimony and digitalis internally, but in three days she died comatose.

"On dissection, some of the convolutions of the small intestines were found agglutinated by adhesive inflammation, but no other abdominal disease. An ounce of serum was found in the pericardium. The left ventricle of the heart was dilated to nearly twice its natural size—the

* Dr. Chambers's case of Purpura Hæmorrhagica. Med. and Phys. Journal. 1826. Medico-Chirurgical Review. London. Vol. 10, pp. 200.

muscular parietes being attenuated. In the left auricle was found a morbid growth of a condylomatous nature. The mitral valve was much thicker than natural, but not ossified.

"In the head, the whole arachnoid membrane, on the upper part of both hemispheres, was covered with a lamina of coagulated lymph, the product of inflammation, and evidently the cause of death."

Case III.*—"The patient was a little girl, 9 years of age, who had spent 6 years of that time in the West Indies, whence she lately returned. On the 1st of February, 1823, she appeared a little unwell, and on the 2d was attacked with sickness, severe pain in the epigastric and umbilical regions, some thirst and fever, tongue furred, pulse accelerated, respiration quickened, with headache, and vomiting of everything taken.

"Some calomel, colycynth, and extract of poppy, ordered to open the bowels. 3d day. Bowels not opened, but the gastric irritability much lessened. A cathartic mixture procured several fœtid stools. At midday, Mr. Prethy, a very intelligent surgeon of London, was summoned to the little patient, who had still pains in the head and stomach, suffused face, tunica conjunctiva injected, insides of the hands of a dark red color, breathing frequent, with a troublesome cough, and increase of fever. Bled to six ounces. Some nitre, and antimonial powder. At this time, petechiæ, of the size of pins' heads, were observed about the arms, breast, abdomen, and right leg. Upon the other leg, was a large blue spot, under the cuticle, of the size of a sixpence. Some sanguineous discharge from the labia pudendi. 4th. Had a restless night, the fever having increased; function of the lungs much impeded, threatening suffocation—great determination to the head—pulse very rapid, and hard, petechiæ increased—the purple spot on the leg enlarged. Mr. Bagster saw the patient to-day, and they agreed on another bleeding, as the most likely means of preserving the head and lungs from serious injury. Ten or twelve ounces of blood were taken from the arm, which produced syncope, and apparent melioration of all the symptoms. In a few hours afterwards, the fever again got up, and Dr. James Johnson saw the patient. He recommended the exhibition of the mineral acids. In the evening, she appeared sinking, and expired at eight o'clock the next morning. The blood first drawn exhibited no serum for a space of eight hours; but after 20 hours, a small quantity of serum was apparent. One cup of the second bleeding showed a coat of coagulable lymph nearly half an inch thick, like very soft jelly, with very loose crassamen-

* London Med. and Phys. Journal, No. 290.

tum, so tender as to be easily broken down with a spoon into a soft pulpy mass. In this cup there was little or no serum. The other portions of blood, which, however, were not taken in a continuous stream, showed no buffy coat, and very little serum, seemingly as if the blood had become so altered as to be incapable of separating into its constituent parts.

"*Post-mortem examination.*—The eyelids, in addition to the parts before mentioned, were thickly studded with petechiæ, and many of a large size appeared upon the back of the trunk. The brain showed merely some increase of vascularity. In the thorax, there were adhesions in the left side, but not of recent formation. The lungs seemed loaded with blood and mucus, but their parenchymatous structure appeared sound. About half an ounce of the water in the pericardium—the external surface of the heart of a pale hue, and about twenty small petechiæ on various parts of it, more particularly at the junction of the auricles and ventricles. In the abdomen, all appeared, at first, natural, excepting the stomach, which was distended with air, and thickly spotted with petechiæ, plainly seen through its peritoneal coat. On opening this viscus, the petechiæ were still more distinct, generally about the size of split peas. No petechiæ were visible in or on the intestines."

Case IV.*—The patient, æt. 12, was scrofulous, having a chronic disease in her left wrist. June 21, a spot appeared on her under lip, like the mark from a pen, and the next morning similar ones were seen studded over her legs and arms. She walked to Mr. Wood's house (about a mile's distance), with ease. Some opening medicine was ordered. Mr. W. found her the next day sitting by the fire, her pulse good, and unconscious of ailment. Salts were given. At 10 at night she had some milk and bread, and soon afterwards went to the water-closet, and again betwixt 3 and 4, A. M., when she was extremely faint and giddy. There was severe pain in the right temple, and distressing sickness supervened. What she vomited was tinged with blood, and her gums now bled readily. Most alarming languor and exhaustion succeeded; the tendency to vomit continued; the pulse was scarcely perceptible; symptoms of oppressed brain manifested themselves, and at 3, P. M., she died comatose.

Dissection.—Surface, as before described. The pericranium and dura mater were covered with petechial spots. On removing the membrane, the effects of large effusion of blood were evident. In the right

* Case of Purpura Hæmorrhagica. By W. Wood. Edinburgh Medico-Chirurgical Transactions, vol. 1. See London Medico-Chirurgical Review, vol. vi. pp. 196.

templar region, a firm coagulum, floating in bloody serum, had forced its way through the broken-down brain into the ventricle. The serous membranes of the chest and abdomen were studded throughout with dark livid spots.

Several cases of purpura hæmorrhagica, with a detailed account of the appearances after death, will be found in the work of Rayer, under the article Hémacélinose. The results of these post-mortem examinations we have stated previously.

Several pathologists have endeavored to investigate the pathology of the fluids, in this disease, but as yet no satisfactory results have been obtained.

The following is the result of an analysis of the urine of a patient affected with purpura hæmorrhagica. This case is related in the Transactions of the Medico-Chirurgical Society of Edinburgh, vol. 1, pp. 671, by Ebenezer Gairdner, M.D.

"No. 1, voided on 2d May, at half past 2 o'clock, P. M., was of a brown color, without smell. On standing, it deposited a precipitate of a dark color, while the superior part of the fluid was of a dirty pale yellow color, and turbid. When the urine was shaken it resumed the original brown appearance; and a portion of it, that was set aside, after eighteen hours standing was still without smell.

"*Experiments.*—1. Litmus paper was stained slightly red.—2. A dense white coagulum was produced by a heat of 180°.—3. Diluted nitric acid and alcohol produced a similar coagulum.—4. Corrosive muriate of mercury caused an abundant white precipitate.—5. Lime-water produced a very slight precipitate.—6. Potash did not cause any precipitate.—7. One fluid drachm contained 2 1-2 grains of solid matter; the urine contained 1-24th part of solid contents.—8. A slight precipitate was produced in the clear liquid, by the corrosive muriate and infusion of gall.—9. The clear liquid contained a considerable portion of a coloring matter, and but a small quantity of phosphoric salt, with no urea.

"Nos. 2 and 3, voided at 5 and half past 5 o'clock, P. M. of 2d May, differed principally from No. 1, in containing more free acid and less albuminary matter, the urine containing only 1-27th part of solid contents.

"In the 8th experiment, the precipitate was rather more copious, indicating the presence of gelatine and mucus.

"In the 9th experiment, also, the appearances were rather more distinct.

"Dr. Combe has shown, in his case of purpura,* that there was an excess of albumen, with a deficiency of urea, similar somewhat, in this respect, to the present case."

II. The striking characteristic of this disease, is the general hæmorrhagic tendency. It seems evident, therefore, that some light will be thrown on its nature by considering the pathology of hæmorrhage.

A difference of opinion exists among pathologists in relation to the mode in which spontaneous hæmorrhage takes place.

One class of pathologists suppose it to arise from the rupture of bloodvessels. Thus hæmoptysis was considered by the older writers, and is regarded now by some modern, as attributable to ruptured bloodvessels. The error of this explanation is fully proved by the fact, that no ruptured bloodvessels discover themselves on examination after death, and in some cases no morbid appearance in the mucous membrane lining the bronchiæ. The same reasoning is true in regard to the hæmorrhages from the other mucous membranes; no erosion of bloodvessels and no cicatrices being revealed by post-mortem examination.

Another class of pathologists attribute spontaneous hæmorrhage to debility and relaxation of the capillaries, in connection with excessive momentum of the blood. The advocates of this doctrine disregard the great discovery of Bichat—the distinction between the vascular circulation and the capillary circulation. The vascular circulation is maintained by the propulsive power of the heart, direct from the arteries, through certain capillaries, to the veins. But the portal circulation, and the lymphatic, cannot be explained on the principles of hydraulics. The reasonings of Bichat, that the capillary and parenchymatous circulation is maintained by inherent forces of its own, are unanswerable. Hence the true pathology of the circulating system must be based on the doctrine of physiology, which admits of two kinds of circulation. 1st. The direct circulation performed by the heart. 2d. The capillary or parenchymatous circulation, performed by inherent and vital forces of its own. The doctrine which ascribes hæmorrhage to the vis a tergo of the heart's action, is disproved by these last results of physiological discovery. Spontaneous hæmorrhage takes place, not from those capillaries which belong to the direct circulation maintained by the heart, but from those capillaries which belong to the parenchymatous circulation. The latter circulation is maintained, not by mechanical forces, but by vital

* Edinburgh Med. and Surg. Journal, No. 66.

forces. Its pathological phenomena must be explained, therefore, not on the principles of mechanics, but on those of vitality.

The third class of pathologists regard spontaneous hæmorrhage as an exhalation of blood, produced by an alteration of the vital forces of the capillaries or exhalents. This pathology of hæmorrhage was first advanced by Bichat, who sustains it by unanswerable arguments. As physiology and pathology advance, the doctrine which ascribes hæmorrhage to a morbid and vital act of the exhalents and capillaries, will prevail more and more over those which disregard the distinction between vital laws and the laws which govern inanimate matter. The mechanical doctrines of spontaneous hæmorrhage, while unsupported by facts, carry our science back to the days when the human body was regarded as a machine, governed by chemical and mechanical laws. The great truths, discovered by Bichat, should not in this day of improvement be thus trampled upon.

Now, purpura hæmorrhagica is characterized, in the great majority of instances, by a disposition to hæmorrhage, in the external and internal tegumentary tissues, in the skin and mucous membranes. In some cases, this hæmorrhagic disposition extends to the serous membranes; and in a few rare instances it affects the parenchymatous structure of the different organs, and prevails in all the tissues which enter into the composition of the organs of the economy. The whole phenomena of the disease, the general hæmorrhagic irritation, and obvious derangement of the great secreting viscera, evince that the source of this disease cannot properly be ascribed to any one organ, or its morbid sympathies, but rather to some part of the system which has a pervading influence, and a powerful control over the functions of the organic life.

In an interesting case of purpura hæmorrhagica, which came under my observation in the summer of 1834, the only probable cause which could be assigned to the disease, was the patient's exposure to putrid exhalations arising from decayed cisterns, in which vegetable and animal matter was undergoing decomposition. The patient, a little girl, was pale, exangious, emaciated, and seemed to have suffered from want of food; but on inquiry, I ascertained that she had been supplied with a sufficient quantity of food, and of proper quality. What, then, could have interrupted the processes of nutrition, and produced the general depression, and hæmorrhagic disposition in the system? It seems perfectly accordant with sound pathological doctrines, and true physiological principles, to suppose, that in this case the putrid exhalations, to which the patient had been exposed, produced a morbid state of the organic nerves, and through the agency of these, that derangement of

nutrition, of secretion, and of the whole vascular system, which characterize the disease.

The anatomical and functional relations of the ganglionic nerves, would seem to point out that portion of the nervous system as chiefly implicated in purpura hæmorrhagica.

It is the function of the organic nerves, distributed throughout the vascular and capillary systems, to impart vitality to the blood, to maintain its circulation in the parenchyma of the different organs, to preside over nutrition, secretion, and the vital processes constantly going on in the intimate texture of the organs of the economy.

The hæmorrhagic irritation, which, in purpura hæmorrhagica, prevails more or less in the different tissues and organs, can only have its seat in the organic nerves distributed to the capillaries. Again, the symptoms of this disease evince a general functional disturbance in those organs, and an interruption of the processes of secretion and nutrition, over which the organic nerves preside.

The researches of Dr. Stoker and others, have shown the almost invariable occurrence, in this disease, of morbid alterations of the blood. From their anatomical and physiological relations, the organic nerves cannot remain in a normal state whilst the blood is diseased.

The anatomical connections of the ganglionic system with the cerebro-spinal system of nerves, especially the inosculation of the par vagum with the solar plexus, show how the primary irritation of the ganglionic nerves may be aggravated by the depressing passions; and how, consecutively, may be produced the prostration of mind, the loss of muscular energy, the pains in the back, loins, and limbs, and the other symptoms of cerebro-spinal affection, which usually attend this disease.

Whether the primary link in the chain of morbid actions consists in an affection of the organic nerves, or in a morbid condition of the blood, future investigations in regard to the predisposing and exciting causes of this disease will indicate. The effects of putrid vegetable and animal matter, when injected into the bloodvessels, as illustrated in the experiments of MM. Gaspard and Magendie, evince that primary morbid irritation of the organic nerves, distributed throughout the vascular and capillary systems, is capable of producing, not only the phenomena of fever, but morbid alterations of the blood, and sanguineous effusion from the capillaries in the mucous membrane and in the intimate structure of the viscera. One of the effects of animal poison, on this class of nerves, is illustrated in Lucan's description of the general hæmorrhage produced by the bite of the hæmorrhois, a Libyan serpent.

"Impressit dentes Hæmorrhois aspera Tullo
Magnanimo juventi, miratorique Catonis.
Utque solet pariter totis effundere signis
Corycii pressura croci: sic omnia membra
Emissere simul rutilum pro sanguine virus.
Sanguis erant lacrymæ quæcunque foramina novit
Humor, ab his largus manat cruor: ora redundat,
Et patulæ nares: Sudor rubet: omnia plenis,
Membra fluunt venis: Totum est provulnere corpus."
LUCAN'S PHARSALIA. Lib. ix. ver. 806.

Diagnosis.—Purpura hæmorrhagica is easily recognized by its two leading characteristics, the petechiæ and ecchymoses on the skin, and the hæmorrhages from the mucous membranes. We leave the question in regard to the difference between this affection and scurvy, or their identity, to be determined by future investigations.

Prognosis.—The prognosis of this disease is very uncertain. The following remarks are taken from the valuable work of Rayer. "L'hémacélinose independante de toute complication, offre un danger proportionné à la quantité de sang perdu dans les hémorrhagies, qui ont lieu simultanément ou successivement sous la peau et dans son épaisseur, à la surface ou dans le tissu des membranes muqueuses, au-dessous des membranes séreuses et dans le parenchyme des viscères. D'ailleurs la gravité de ces hémorrhagies varie, suivant l'importance des tissus ou des organes affectés. L'existence antérieure ou le developpement accidentel d'une maladie, du poumon, du cœur, des organes digestifs, etc., rendent le pronostic plus facheux et le traitement plus difficile."

Treatment.—It is impossible to form precise rules of treatment in this disease. It is evident that it assumes a great variety of forms; that though it has its invariable and distinctive characteristics, yet the degree of constitutional energy accompanying each particular case, and the morbid states with which it may be associated, vary to an indefinite extent. Hence in considering the treatment of this disease, it will be proper to take such general views as pathological research justifies; not confining our attention to its inflammatory states with Parry, or to its states of depressed vital power with Willan.

A professed nosologist might consider this disease under its sthenic and asthenic forms. But in the present state of our knowledge of purpura hæmorrhagica, such a division would not contribute to accuracy in the adaptation of remedial measures to the different pathological states which accompany its various forms.

From a review of recorded cases, it would seem that the following indications may arise to be fulfilled in different cases of purpura hæmorrhagica. 1st. To diminish plethora, and remove inflammatory or congestive tendencies. 2d. To remove the hæmorrhagic disposition, which, in our opinion, is owing to an irritability, or change in the organic action of the ganglial nerves distributed to the capillary system. 3d. To restore the secretions, particularly the hepatic. 4th. To raise the vital energies, and impart force to the capillary system.

1st. To diminish plethora, and remove inflammatory and congestive tendencies.

Plethora, accompanied by inflammation or congestion, attends this disease in its more active forms. Hence Parry was led to regard it an inflammatory disease, and Bateman a congestive disease. Blood-letting is the great remedy, where such symptoms manifest themselves.

If the disease occur in adults, whose sanguineous system is largely developed, who are at once plethoric and robust, whose previous living has been substantial, who have enjoyed exercise in the open air; and if, to these circumstances of age, constitution and previous habits, there be added symptoms of local determination, either to the head, thorax, or abdomen, or if the pulse be firm and hard, or evince that the system is laboring under a load which oppresses it, the practitioner has only to follow in the steps of Parry, and subdue the disease by blood-letting.

The indications for blood-letting may not be so evident in other cases of the disease; the pulse may be feeble and frequent, and yet the signs of excessive congestion clear—the patient being affected with cough, dyspnœa, and pains in the thorax, or with symptoms of cerebral congestion, or of congestion in the portal circle. Now in the treatment of such cases, two errors may arise, and have actually occurred in practice, as recorded cases evince. First, the practitioner, adopting the general principle of Parry, that the disease is essentially inflammatory, has bled, when the common vascular circulation would not bear it. Second, the practitioner, taking the pulse as the nosometer of disease, has mistaken congestion for debility, and by the use of tonics has aggravated the congestion—the true cause of the debility. In such cases, the true object being to withdraw the blood congested in the capillaries into the common vascular circulation, and the pulse not admitting of blood-letting, it will be proper to resort to diffusible stimulants, in connection with counter-irritants and local depletion;* in this manner keeping up the ener-

* The hæmorrhagic tendency in this disease is so great, that cupping and leeching cannot frequently be applied, on account of the danger of subsequent hæmorrhage

gies of the system, and relieving the engorged capillaries. If the pulse becomes fuller, but symptoms of congestion remain, it will be proper to resort to venesection. "If the patient expresses himself relieved, and the pulse becomes fuller and less frequent, we have encouragement to proceed, till we have relieved, in a degree, the system of the load which oppresses it."—*Stoker.*

Again, venesection is indicated when purpura hæmorrhagica is complicated with inflammatory diseases; for instance, with general acute rheumatism, as in the following cases, communicated by Dr. J. S. Combe to Dr. Macintosh, of Edinburgh:—

"A remarkable case of purpura was pointed out to me (says Dr. Combe) by the late Dr. Kellie. The subject was a brewer's servant, big and plethoric, who, on the fourth day of an attack of acute and general rheumatism, was found covered with bright petechial spots; he also discharged some blood from the bowels. Active depletion was had recourse to, and he made a quick recovery." Dr. Combe states that he lately saw a robust girl, aged 5, who had been attacked with a violent convulsive fit, and on recovery complained of severe pain of the head. "In a few hours I saw her, and as smallpox prevailed in the neighborhood, her friends considered it as such, and pointed out some spots on the skin; they were, undoubtedly, petechial, and covered nearly the whole body, with smart fever and vomiting. On the 3d day the extensor muscles of the head were so painful that she could not bend it forward without much suffering; in a few hours this was followed by acute pain of all the larger joints. The spots on the 5th day were fainter in color, and disappeared in a few days after; but eight days more elapsed before the rheumatic affection subsided. She was treated actively by venesection and purgatives."*

In cases of cerebral determination, where the occurrence of hæmorrhage would prove invariably fatal, blood-letting is peculiarly indicated,

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from the leech-bites and scarifications. Macintosh† says, that in venesection a larger orifice should not be made than is actually necessary, as subsequent hæmorrhage frequently occurs from the vein, and difficulty is experienced in suppressing it. The practitioner can judge of the safety of local depletion, in some degree, by the appearance of the blood; if it coagulates, when it has been exhaled from the mucous membrane of the mouth, and forms crusts which tenaciously adhere to the mucous surface, there can be no danger from such depletions. These phenomena of the blood evince an inflammatory diathesis, and indicate, in the opinion of Dr. James Johnson,‡ the safety of venesection.

* Macintosh's Practice. † Macintosh's Practice.

‡ Med.-Chirurgical Review, July, 1828. Pp. 213.

especially in the early stages of the disease. To this remedy might be conjoined the cold dash upon the head, and the use of the terebinthinate enema, which in other cases has proved a powerful derivative from the brain as well as sustainer of vital energy.

With regard to the use of blood-letting in purpura hæmorrhagica, it will be found most beneficial in the early stages of the disease,* and wherever it approaches to the nature of active hæmorrhage. But in all cases of its use, the precaution of Dr. Stoker should be observed. "The finger of the prescriber, during the operation, should be kept constantly on the radial artery, that its effects on the powers of the circulation may be thus immediately ascertained, and that its safety or danger may be thus decided upon. If the pulse remain firm, the quantity of blood may be allowed to flow on to ten, twelve, or fourteen ounces, according to the urgency of the symptoms, but should be stopped as soon as the vigor of the circulation begins to fail."

2d indication, to allay the hæmorrhagic irritability. This disposition coexists with various states of vital energy. Hence the most opposite remedies may allay this morbid irritation. In the more sthenic forms of the disease, blood-letting, by its sedative effect upon the nervous system, has a tendency to subdue it. In the more asthenic forms of the disease, the tonic treatment has the same effect. Among the remedies which seem peculiarly calculated to fulfil this indication, we may mention the nitrate of potash, the acetate of lead, and the oil of turpentine. The nitrate of potash was the favorite remedy of the celebrated Riverius, in purpura arising during the convalescence from fevers. The action of acetate of lead, when combined with opium, in restraining hæmorrhage, is to be explained, not merely by its astringent effect, but by its sedative influence upon the ganglial nerves, distributed to the capillary system. Thus by a vital action, it removes the hæmorrhagic irritability, which is the cause of spontaneous hæmorrhage. The oil of turpentine exercises a powerful control over irritability, whether occurring in states of the system where the vital energy is raised, or depressed. Hence its efficacy in spasmodic diseases and in purpura hæmorrhagica.†

The warm bath, or the affusion of cold or tepid water over the whole body or the seats of congestion, and compresses moistened with cold vinegar, or the solution of chloride of lime, or weak alcohol, applied to the spots and ecchymoses, will in various cases be found useful.

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* Macintosh's Practice.

† Dr. Eberle has treated one case successfully with the nitrate of silver, a remedy whose agency is to be explained in the same manner.

Pains in different parts of the body will be allayed by opiate fomentations, emollient lotions, cataplasms or bladders of warm milk.*

3d indication, to restore the secretions, particularly of the liver. All writers unite in recommending the use of purgatives in this disease. Dr. Bateman relies much on mercurial purgatives, as will be seen by the following extract. "When purpura hæmorrhagica occurs in adults, especially in those already enjoying the benefit of exercise in the air of the country, and who have suffered no privation in respect to diet, or when it appears in persons previously stout, or even plethoric; when it is accompanied with a white and loaded tongue, a quick and somewhat sharp, though small pulse, occasional chills and heats, and other symptoms of feverishness, however moderate; and if at the same time there are fixed internal pains, a dry cough, and an irregular state of the bowels—free and repeated evacuations of the bowels, by medicines containing some portion of the sub-muriate of mercury, will be found most beneficial."

Dr. Harty,† of Dublin, having witnessed the death of a patient who was treated with nutritious diet and tonic medicines, adopted the purgative plan in upwards of a dozen cases with uniform success. A few active doses of jalap and calomel administered daily were sufficient to cause a cessation of the hæmorrhages and the disappearance of the purple spots on the skin.

In cases where the secretions and excretions are deficient, and where, at the same time, the vital energies are depressed, instead of mercurial purgatives, it will be proper to use a combination of tonics and aperients, such as preparations of rhubarb with gentian, cardiacs and aromatics. Perhaps in such cases the occasional use of the terebinthinates will have the effect to restore the secretions.

4th indication, to raise the vital energies, and impart force to the capillary system. The cases of purpura hæmorrhagica which require this mode of treatment, are of the class related by Dr. Willan, whose experience seems to have been confined to patients in whom the disease had been caused by agents which depress the powers of life. This form of the disease generally occurs in feeble and emaciated children, and in females who have been confined to crowded and filthy apartments, deprived of nutritious food and of exercise in the open air, who have been overtasked by labor, and subjected to the influence of the depressing passions.

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* Cazenave and Shedel, pp. 379.

† Edinburgh Med. and Surg. Journal for 1813.

The remedies calculated to fulfil the above indication, include generous diet, wine, acids, and the preparations of cinchona and iron. Rayer and Biett, of Paris, and Dr. Brachet, of Lyons, recommend the use of the ext. of rhatany* mixed with ice, in connection with acidulated drinks and mild laxatives.

Dr. Graves, in the Dublin Journal, No. 9, 1833, says this form of the disease occurs frequently among the children of tradesmen and petty shopkeepers in Dublin, and is produced by the habitual use of a salt diet. His plan of treatment, which seems to have been very successful, consists in a change of diet—"a nutritious dinner of fresh meat, and vegetables, with milk instead of tea for breakfast." In addition to the nutritious diet, he administers citric acid, ʒss. or more, daily, properly diluted and sweetened.

The general views on the treatment of purpura hæmorrhagica, which have now been given, include the best measures of cure that have been devised by the most eminent physicians. The therapeutical indications arising in each particular case, and the remedial measures calculated to fulfil such indications, will be suggested to the practitioner by the age and temperament of the patient, the previous duration of the disease, the state of the nervous and circulating systems, the condition of the secretions and excretions, and the degree of vital energy. In most cases, perhaps the plan† recommended by Dr. James Johnson will be proper—"moderate purgation with the use of the mineral acids; the infusion of roses, with sulphate of magnesia, and the dilute sulphuric acid; an occasional dose of calomel, unirritating diet, and the use of tonics and even stimulants, when the motions become natural and the digestion good."

The hygienic measures consist in tonics, generous diet, living in a high and dry situation, exercise in the open air, and amusements which contribute to tranquillity and serenity of mind. Dr. Willan insists strongly on exercise in the open air. Cazenave recommends a free circulation of air, and a regulated diet, composed of animal jellies, a small quantity of roasted white meats, and generous wine, always taken well iced.

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* Dose ℈j. daily.

† Med. Chirurg. Review, July, 1833, pp. 155.

Bibliog. and Ref.—Riverii. Prax. Med. lib. xvii. cap. 1, de Febre pestilenti. Cent. ii. Observ. 18, and Cent. i. Ob. 21. Hoffmann. Suppl. par. ii. pp. 493, de Purpura Scorbutica. Philosophical Trans. vol. liii. Werlhoff de Variol. et Anthrac. cap. iii. sec. 15, and in Commerc. literar. Norimberg. Graaf. Dissert. Inaug. de Petechiis sine Febre, Gottingæ, 1775. Duncan's Med. Commentaries, for 1774, and Med. Cases, 1778. I. H. Shlichthorst. Dissert. de Petech. Gottingæ, 1783. Adair Dissert. Inaug. de Hæmorrhœa Petechiali. Edinburgh, 1789. Medical Facts, vol. ii. Memoirs of the Medical Society of London, vol. iii. pp. 393, and vol. iv. Annals of Medicine, vol. ii. pp. 231. Willan on the Skin. Bateman's Synopsis of Cutaneous Diseases. Rayer, Cazenave, and Plumbe, on the Skin. Parry's Pathology. Stoker's Pathological Observations.

We subjoin the following cases, illustrating the different modes of treatment that may be adapted to the various forms of purpura hæmorrhagica.

1st Case. By C. H. Parry. Edinburgh Medical and Surgical Journal, Number xvii. Article 2.—"Ten or twelve years ago I was sent for to attend a lady about 30 years of age, of a fair complexion, and rather full habit, who for some days had labored under slight febrile symptoms, with a full pulse, though but little thirst or fur on her tongue. Nothing else was worthy of attention, but the state of her skin, which was thickly sprinkled with spots, small, and of irregular forms, not raised above the surface, of a dark logwood color, and in no degree evanescent on pressure. An apothecary in this city, Mr. Foster, had, previously to my visit, taken from her arm at least 14 ounces of blood, which I saw in a bason, and the surface of which consisted of a crust of coagulated lymph, as thick and tenacious as I ever witnessed in the most acute case of rheumatism, pleurisy or hepatitis. The cruor was also very firm and cohesive, and difficult of diffusion, when shaken in the serum; notwithstanding which, the proportion of the whole crassamentum to that of the serum was uncommonly great. The patient expressed so much relief from bleeding, that I thought myself justified in ordering it shortly afterwards to be repeated. Relief was by this measure again obtained; and, under the use of some common refrigerants, the lady quickly recovered, without bark, or any other of those remedies usually dignified with the name of tonics."

2d Case. From the posthumous writings of Caleb Hillier Parry, M.D. F.R.S. Vol. 1st, pp. 220.—"J. B. aged 24, had for three or four years been subject to pain of the lower extremities, and chiefly of the ankles, which was occasionally relieved by topical œdematous swell-

ings. About the beginning of March, 1814, he was seized with a great increase of the pain, which affected the left foot across the instep, accompanied with swelling and redness, great aggravation on moving the part, but little soreness to the touch. Neither the pain nor swelling affected any other part. The same night there came out spots of a petechial kind, of a dark red, and sometimes purple color, roundish, and of different sizes. They first affected both thighs, then extended themselves to the legs and feet. The thighs and legs were not considerably sore, but were stiff, and, as it were, benumbed, when he attempted to walk. His appetite for animal food was diminished; his pulse was somewhat quickened, he was thirsty, and his rest was disturbed. His urine was also high colored, with a deal of sediment. In this state he obtained some temporary benefit from purging. But the complaint returning with increased violence, he was blooded on the 25th of March, to the amount of ten or twelve ounces. The blood had all the appearances which occur in that of pleuritic patients; and at the end of three days the chief part of the disorder was removed. About this time he became very hoarse, with a cough, and soreness of the throat. On the 5th of April, his pulse was natural, his skin cool, his tongue clean, his appetite good. He was also free from all pain and swelling of the foot and leg. He still, however, continued extremely hoarse, and a broad damask-colored spot, of an irregular shape, occasionally appeared on the leg. I ordered another bleeding on the 7th to the amount of twelve ounces. The blood was precisely in the same state as the former. On the 15th no return of pain, swelling, or petechial spots had taken place. The hoarseness was almost gone; his pulse was slow and soft, and he was in other respects perfectly free from disease."

In the above cases, the usual procession of phenomena in purpura was interrupted by venesection, and the hæmorrhagic disposition subdued before it could fully manifest itself.

3d Case. By Ebenezer Gairdner, M.D. Fellow of the Royal College of Physicians, Edinburgh; Transactions of the Medico-Chirurgical Society of Edinburgh, Vol. I, pp. 671.—"James Stoddart, æt. 6, living in a confined part of the town, of a weak and strumous constitution, though lively, had been much confined to school, and had a swelling of the glands of the neck, with inflamed eyes. On the 24th and two following days of April, 1823, he appeared very dull, inclined to sit over the fire, with thirst and face flushed. On the 27th, spots, like flea-bites,

ssomemall and red, others larger, and purple, appeared over a great part of his skin, and soon increased considerably. On the 28th, blood oozed from the mouth, with occasional bloody sputa. In the morning the urine was red and turbid, and in the forenoon he walked a mile and a half with his father for medical aid. On the first of May, Dr. Gairdner first saw the patient, and, from the symptoms, recognized immediately the purpura hæmorrhagica of Willan. The petechiæ, with vibices and ecchymoses, were numerous over the whole body, but crowded on the upper part of the back, breast, and anterior part of both thighs; some of the latter, about the size of a sixpence, of irregular shapes, were of a claret color; some felt rough, though not at all elevated. By careful examination through a powerful glass, the texture of the skin appeared quite entire. The conjunctiva of the right eye was ecchymosed, without œdema or lippitudo; there was neither diminution of sight, nor pain; tongue rather dry, and strewed with several petechiæ; thirst; gums redder than usual, tender, and blood oozed from them; his breath fœtid; hæmatemesis occasionally present; the schneiderian membrane was streaked with blood, and at times it bled. Both hypochondria, particularly the left, were full, and painful on pressure; abdomen rather tumid, with obscure pain; bowels costive; the urine, of a deep red, and turbid, was free, and often passed in sleep; skin nearly as usual; he seemed little oppressed, but attentive to questions. A saline cathartic and 15 drops of the diluted sulphuric acid to be taken thrice a day: the warm bath, of about 80° of Fahrenheit, evening and morning. May 2d. Some sleep was obtained, though he had a bad night; breathing oppressed, and quiet; hæmorrhagic symptoms increased; pulse 110 and wiry. He was bled, and when he had lost about ℥x. he vomited; no blood in the egesta, but he had spit clots in the night; pulse 124; skin hot; besides the bath, and sulphuric acid, powders containing calomel and jalap, three grains each, were ordered every three hours. On the 3d, the wound had not yet closed; blood had oozed from it since the operation; some vibices enlarged. All the symptoms were mitigated. On the 4th, pulse 124; pain under the os frontis; ecchymosis of the eye greater; hypochondria more painful, with tension. Bleeding was again determined on, but, on removing the bandage, blood drained out, and the patient becoming faint with terror at the lancet, two or three ounces only were obtained. He sank into a sound slumber soon afterwards; pulse 124. 5th. Urine pale and limpid; pulse 102; evacuations from the bowels black and offensive. The pain in the abdomen and hypochondria increased considerably, and castor oil was administered in

small doses, with fomentations. Nature appearing inadequate to the removal of the disease, port wine and water, a pound of each, with an ounce of cinchona infused into it, was frequently given. 6th. The pain in the bowels began to decrease, black fæces were still discharged, no oozing or spitting of blood, tongue natural, and the petechiæ appeared a little faded; pulse 98. He continued to improve daily, till the 10th, when he was convalescent; the marks on the skin very pale, but the breath was fœtid. On the 14th he was quite well.

"The blood could not be analyzed, as it was thrown away, but what was first drawn seemed in four hours to coagulate imperfectly into one mass. On the following day, it resembled a tremulous jelly, the top of a greenish buff color, interspersed with brownish spots. What was drawn afterwards, was more like turbid lymph, or a fluid in which some reddish coloring matter was in suspension. The cloths were stained as with dirty water, with spots of a reddish brown hue. It is remarkable that the serum, by rest, undergoes a spontaneous, though slow coagulation."—See Johnson's Medico-Chirurgical Review, No. 9, January 7, 1825.

4th Case. By Dr. J. S. Combe. Vol. 17, pp. 83, Edinburgh Medical and Surgical Journal, 1820, Sept. 10.—"Edward Canny, æt. 10. Skin universally covered with petechiæ of a dark brown, almost black color, varying in size from that of a pin-head to one third of an inch in diameter, of form nearly circular, but on the lower extremities less distinctly circumscribed, and pale. The tongue, gums, and fauces, as far as can be seen, are studded with spots, but not so thickly as on the outer surface. There is a constant and pretty copious discharge of *thin* pale blood from the mouth and nostrils. The petechiæ on the tongue bleed freely when touched. Pulse 116, small and rather sharp; skin hot; tongue white; breathing hurried; but he is able to draw a full respiration. Appetite not affected; very thirsty; has severe pains in head and legs; very weak. Spots were first observed two days ago in the morning, and on the evening of the same day blood began to issue from his mouth; he passed a stool, in which bloody dots were perceived—ordered a brisk purgative, and 10 drops of acid. sulph. dil. aromat. thrice a day. 20th. Petechiæ present various shades of color; blood oozing freely; pulse 120, small; had one stool, very fœtid; skin hot; appetite good; urine scanty, very thick. Rep. pulv. purg. et cont. acid. sulp. dil. 22d. A number of the spots have run into large vibices; discharge of blood equally copious, and much attenuated; pulse 120, fuller.

Vomited a little blood twice; complains of sickness on raising his head; severe pain in the head; bowels freely open; stools dark colored, fœtid; urine said to be high colored, and sparing in quantity. Habt. iterum pulv. purg. et sumat pulv. cinch. gra. x. cum acid. sulp. dil. gtt. viij. quarta quaque hora. Let him have an ounce of port wine every five hours. 23d. Slept ill; pain in the forehead; nausea and occasional retching, and great debility; pulse 110, small; petechiæ and hæmorrhage as before; bowels freely opened; urine scanty, turbid, and depositing a copious sediment; body emits a most offensive fœtor. Cont. omnia. 24th. He is in an alarming state; oppressed with nausea; vomits on the exertion. Has not taken his medicines; blood flowing more copiously from mouth; petechiæ have gone into large clusters on forehead, arms, and legs. Pulse 120, hard; violent pain in the head; skin hot in the trunk, but cold on the extremities. Eight ounces of blood abstracted from external jugular vein. He became faint, and vomited, and the pulse softer and fuller. The blood flowed in a small stream, and was of a very pale color, more like the washings of flesh than common blood; coagulated slowly without any separation of serum, and showed no buffy coat. Ordered a purgative—discontinue the other medicines. On visiting him eight hours after, he was rather better; sickness much abated, and no vomiting. Pulse 110, soft; headache easier; bowels opened three times; stools more natural in appearance. There has been a copious flow of pale, limpid urine; the wound in the vein had not closed, from which he lost about ℥iss. more of blood. 25th, 8 A. M. Dr. Combe was called in great haste to stop the bleeding from the jugular. The patient's clothes and bed clothes were quite soaked with blood; it was paler and even more attenuated. Caustic applied to the wound. In other respects decidedly better; voice stronger; countenance more animated; headache relieved; no nausea or vomiting; urine very turbid. Ordered to be kept quiet, and to have any diet he chose, but no spirits. In the evening no blood had been discharged for the last two hours, either from wound or mouth. Habt. tinct. opii gtt. xx. h. s. et pulv. jalap gr. xij. cras mane. 26th. Lost about ℥i. of blood from the wound during the night. Slept well; headache very slight; pulse 120, soft. No discharge of blood from nose or mouth; petechiæ fainter, and more diffused; bowels freely opened, stools natural; urine clear, and of a pale yellow color. 27th. Convalescent. From this time doing well, spots having altogether disappeared; was discharged 7th October."

5th Case. By John Macintosh, M.D. Edinburgh. Practice, pp. 570. —"I was called to a child between two and three years of age, who lived in the same town with two or three other children affected with genuine smallpox. I found it feverish and lethargic, with constant vomiting; it had several petechial spots, and although it had gone through the process of vaccination, when a few months old, I was apprehensive of smallpox. Laxative medicines were ordered. Next day the child was found in the same state. The petechial spots had increased in number and size, and had spread over the trunk and extremities; the skin was hot, and the pulse quick and strong; nothing could be retained on the stomach; several attempts were made to give laxatives, but even small quantities of calomel were immediately vomited. Four leeches were applied to the instep. On the 3d day the child was convalescent; the leeches bled profusely; and although a tight bandage had been employed as directed, still the greatest difficulty was experienced in restraining the hæmorrhage. No petechial spots were now to be seen, but the foot was ecchymosed from the pressure of the bandage, on the removal of which, blood again began to ooze from the leech-bites, which made it necessary to reapply it. There had been no stool for three days, but as the irritability of the stomach had now subsided, laxative medicines were given, the bowels were moved before night, and so little debility was produced, that the child was walking about the room on the third day."

For other cases in which the antiphlogistic treatment was pursued with success, the reader is referred to Dr. Johnson's case, Med.-Chirurg. Review, June, 1822, pp. 14.—Dr. Latham's case, ibid. July, 1828, pp. 213.—Dr. Belcher's case, Med. and Physical Journal, London, March, 1825.—Mr. Kingsley's case, London Lancet, No. 199.

6th Case. By Joseph Joy Magee, M.D. senior physician to the Dublin Sick Poor Institution.—"Mary Walsh, No. 63 Bridgefoot street, an intelligent child of 6 years of age, had felt heavy and languid for the last six weeks, without, however, complaining of particular indisposition. Two days ago an eruption of a dark purple color began to appear on her arms, legs and body. This day (8th of December, 1824), the whole of the skin except the face, on which are only a few spots near the hairy scalp, is covered with these spots. The largest are about the size of a flea-bite, from which they gradually diminish to a point. Some, which appear to be more recent, are of a florid appearance, exactly re-

sembling the mark left by the bite of a flea. The child says she feels no pain or sickness, only general languor. The skin between the spots, is of a dirty color. The appetite remains unimpaired; bowels free; tongue clean; pulse regular. R. sub. mur. hydrargyri. gr. xij.; pulv. antimonialis gr. xvi. M. divide in partes sex. sumat j. tertiis horis. 9th. Took all the powders; complains of sickness; some vomiting, not bilious; no appetite; tongue begins to be a little black; had no dejection; spots as before. R. sub. mur. hyd. gr. xij.; pulv. scammonii ʒss.; zingiberis. gr. iv. M. et divide in partes iij. sumat j. tertiis horis ad alvi. solutionem. 10th. Took all the powders yesterday, had three dejections like tar; some vomiting, very black and bilious; tongue, except at the point, quite black; gums spongy; breath very fetid; bled a little this morning from the gums. R. ol. ricini, spt. terebinth. āā ʒij.; aquæ menth. pip. ʒss. M. ft. haustus statim sumend. 11th. Had one dejection of natural appearance; the spots more numerous; large black spots, some as large as a half crown piece, have appeared on the legs; considerable hæmorrhage from the gums; appears much emaciated; no appetite; mouth and fauces very sore; breath very fetid. R. olei ricini, spt. terebinth. āā ʒiij.; aquæ menth. pip. ʒss. M. ft. haustus stat. sum. 12th. One natural dejection; spots as before; more *vibices;* great hæmorrhage; tongue very black; mouth continues growing sorer; great discharge of saliva. R. ol. ricini, spt. terebinth. *āā* ʒss.; aquæ menth. pip. ʒss. M. ft. haust. stat. sum. 13th. One dejection, very black; much hæmorrhage from the mouth; a large sloughing ulcer on one side of the fauces; gums very sore, and disposed to bleed; the general appearance somewhat improved. Repetatur haustus ut heri. 14th. Two copious melænic dejections; spots begin to decline (9th day), some hæmorrhage; mouth very sore; breath fetid; tongue beginning to look clean about the edges; otherwise very black; the ulcer covered with a slough. R. decoct. cinchon. ℥ viij.; acid. sulph. dil. ʒi. M. pro gargarismate. Repetatur haustus ut heri. 15th. Two copious melænic dejections; spots more effaced; tongue cleaner; little hæmorrhage; general appearance improved. Cont. gargarisma. et repet. haustus. The draught was repeated on the 16th, 17th, and 18th, with good effects, at which time the petechiæ and vibices had entirely disappeared. The only remaining symptoms are debility and soreness of the mouth, which is also rapidly getting better. I have since had several cases of purpura which did not assume the hæmorrhagic form, solely, I am persuaded, from the use of the turpentine."—*Edinburgh Med. and Phys. Jour. for October,* 1825.

For other cases treated with success by the oil of turpentine, the reader is referred to Dr. Nichol's cases, in the London Medical Repository for July, 1821 ; in No. 6, ibid. and to Dr. Thompson's case in the London Medical Repository, No. 119.

7th Case. By John Huxham, M.D. F.R.S.—This case occurred in the person of an eminent surgeon in 1741. Febrile symptoms, with oppression at the chest, preceded for a week the appearance of petechiæ, which were ushered in by frequent syncope. "He had a vast languor with pain and extreme oppression on the præcordia, and a perpetual sighing ; his breath now stank abominably, and a fœtid bloody matter leaked continually from his gums, and thousands of livid violet, and black spots, appeared all over his body, on the trunk, as well as the limbs." He was bled twice to the extent of x. or xij. ʒ. without relief of the oppression, sighing, fainting and anxiety. Hæmorrhage occurred from the lips, nose, the caruncle of one of his eyes, from the tongue, on which were several livid pustules. "A bloody dysentery came on, with severe gripes and excessive faintness." "His urine seemed tinged with blood, being almost black ;" "his pulse intermitted every sixth or eighth pulsation, and then fluttered on again vastly quick ;" the hæmorrhage still continued, especially from the tongue, lips, gums, and nose ; "so that he was reduced to an extreme degree of weakness, with never ceasing tremblings, *subsultus tendinum*, and almost continual faintings."

"I gave him frequently of bark in small doses with elixir vitrioli, premising a small quantity of rhubarb. Besides this he drank tincture of roses with cinnamon water, made very acid, and also a decoction of *sevil* orange rind, red roses, cinnamon, and a little Japon earth (as it is called) well acidulated ; claret and red port, with about half water, he drank at pleasure. As the bark sat easy with him, I continued its use, and increased its quantity, giving with it some confect. fracast. sine melle, to restrain the dysenteric flux ; and yet I now and then interposed a small dose of rhubarb, to carry off any bloody, bilious, or sanious matter, that might be lodged in, or leak into the intestines. In the meantime, I ordered him to be frequently supported with rice, panado, sago, jellies of hartshorn well acidulated, toast out of claret, or red port wine ; and I directed fomentations of aromatics, and astringents, boiled in red wine, to be frequently applied to the whole abdomen." During convalescence, the patient was affected with occasional hæmorrhage from the nose and gums, with much œdema of the feet and legs, and with tenderness and excessive sensibility of the surface of the body,

"the flesh scarce bearing the least touch." In about two months, he recovered a good state of health by the use of bark, rhabarate purges, easy stomachic chalybeates, elixir of vitriol, *pyrmont* water, with proper diuretics, and gentle regular exercise.—*Huxham on Fevers, Chap. 5th, pp.* 62.

8th Case. By T. Garnett, M.D. C.M.S. Physician at Harrgate.—"On the 31st day of March, 1792, I was desired to visit W. Reynard, of Knaresborough, aged 15 years, who had for near half a year been afflicted with difficulty of breathing; his countenance was exceedingly pale, and he was very much emaciated." Had been affected with occasional hæmorrhage from the nose, for about two months; his skin was covered with petechiæ, from the size of the head of a small pin to that of a split pea; varying in color from a dirty yellow, or light brown, to a purple, dark brown, and blue." Similar spots on the tongue; gums much swelled, and bled on the slightest pressure. Hæmorrhage from the nose, gums, and tongue in considerable quantity; pulse 100, and very weak. Patient had a short tickling cough; much inclined to sleep. Had taken some Peruvian bark, which did not agree with him. Prescribed R. vin. ferri, tinct. gent. comp. āā ʒ ij. Ft. m. cujus. capiab. cochlear. j. larga ter quotidie. R. zinci vitriol. ℈ ss.; ext. gent. ʒ ss.; sapon, alb. ℈ j.; syr. simp. q. s. ft. pil. xx. j. mane nocteque sumenda. Nourishing diet with a little wine; to eat freely of oranges. Continued this plan till April 4th. Hæmorrhage had continued occasionally; for cough, tinctures had been directed. "April 4th. Began to bleed at the nose and mouth this morning about two o'clock, while he was asleep; had bled, before nine o'clock, about three pints; the blood was thin, but of a florid red color." Ordered the medicines to be omitted. Prescribed R. infus. rosæ rub. ʒ viij.; elixir vit. acid. gtt. 50. Ft. m. Two tablespoonsful every two hours; much inclined to sleep; several of the petechiæ had disappeared, and those which remained were not so livid; pulse 104, but not very weak. April 5th. Has bled none since yesterday morning, except a few drops in the night, when he was asleep; feels himself very weak; petechiæ diminished in number, and not nearly so deep-colored; pulse 94, extremely weak. R. decoct. cort. Peruv. ʒ viij.; tinct. ejusdem ʒ j.; alum com. ℈ ij. M. cujus capiab. cochl. ij. larga. ter quotidie. Continue pills of zinc vitriolat. April 6th. Has not bled, excepting a few drops in the night—thinks himself much better, but very weak; pulse 88, very regular, and considerably stronger than yesterday; petechiæ disappearing fast. April 20th. Quite well.—*Memoirs of the Medical Society of London, vol. 4th, pp.* 233.

For other cases of the asthenic form, see Memoirs of the London Medical Society, vol. 3, p. 393, case by J. Aiken.—Edinburgh Medical Commentaries for the year 1774, case by J. Aikin.—Also Duncan's Annals of Medicine, vol. 2d.